DOE This Month

U.S. DEPARTMENT OF ENERGY

NOVEMBER 2000

Architect team wins 'Sun Wall' design competition

Department establishes National Bioenergy Center

DOE This Month

U.S. Department of Energy

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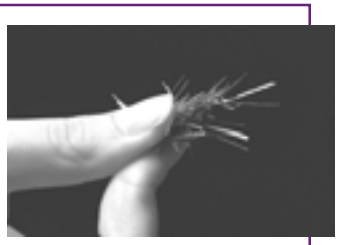
Inside



On our cover

The Department of Energy's (DOE) Oakland Operations Office in California hosted its sixth annual "DOE Day" in October to meet the local community. About 2,000 people attended the "day" at the Ronald V. Dellums Federal Building Plaza in downtown Oakland. The General Services Administration (GSA) and the Environmental Protection Agency (EPA) cosponsored the event for the third year in a row. Activities centered around the theme "Be Energy Smart."

Highlights of the day included keynote speaker Dr. Mildred Dresselhaus, Director, DOE Office of Science, who had a lively question and answer session with local students on careers in mathematics and science. Other crowd "hits" were the science and energy exhibits provided by DOE Oakland; the Department's Lawrence Berkeley, Lawrence Livermore, and Sandia National Laboratories and Stanford Linear Accelerator Center; GSA; EPA; the Museum of African American Technology and Science Village; the City of Oakland Public Works Agency; and Pacific Gas and Electric.

Architect team wins 'Sun Wall' competition

Secretary of Energy Bill Richardson, joined by members of the American Institute of Architects, announced the winners of the national design competition for the proposed "Sun Wall" solar installation on the south wall of the Department of Energy's Forrestal Building in Washington, D.C. This is the first step for the Department Headquarters to become the home of the largest solar energy system on any Federal building in the United States.

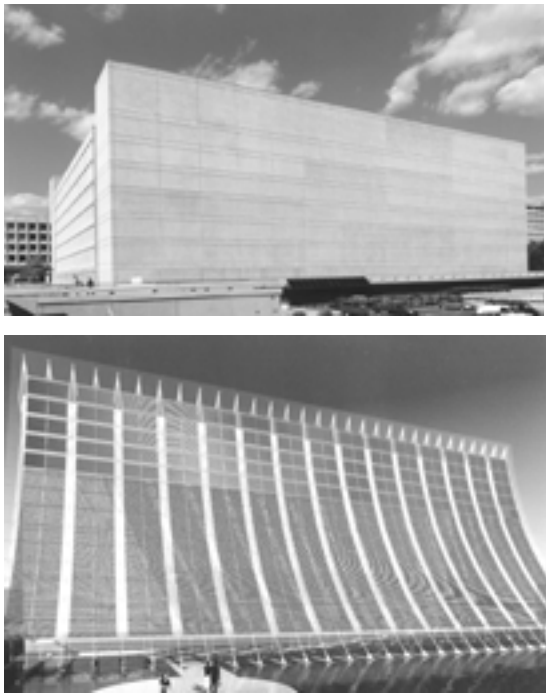
"The overwhelming response by top architects and solar design specialists to the Sun Wall design competition shows the tremendous interest within the U.S. for solar energy utilization," said Secretary Richardson. "Once completed, the Sun Wall will not only be the largest solar system on a Federal building, it will serve as an international landmark for the advancement of solar energy."

The winners of the design competition and $20,000 prize are Martin Wolf, FAIA; Mark Frisch, AIA; Devon Patterson, AIA; and Duane Carter of Solomon Cordwell Buenz & Associates, Chicago, Ill., with Mahadev Raman and David M. Scott of Ove Arup & Partners, New York, N.Y.

The winning design was selected from 115 entries and judged by a group of preeminent Federal and private-sector architects.

Designs for the 32,000-square-foot blank wall were judged on aesthetics, energy production, and cost-effectiveness. The winning entry combines electricity generating photovoltaic panels with a solar thermal installation for efficient water heating for use in the building. A shaded interior space allows a view of the solar wall from the backside. Once installed, the system could generate as much as 200 kilowatts of electric power—enough energy for more than 60 homes.

The winning design will be considered for future installation on the Forrestal Building. The National Capital Planning Commission and The Commission of Fine Arts must review and approve the design. It is expected that installation will be funded by a combination of public and private resources.



The Forrestal Building south wall today (top) and the winning Sun Wall design showing the exterior view from the southwest.

The design competition was sponsored by the Department of Energy, the American Institute of Architects, the Department's National Renewable Energy Laboratory, and the Architectural Engineering Institute. ❖

Secretary establishes fire action plan

On Nov. 22, 2000, Secretary of Energy Bill Richardson announced a series of actions to better prepare the Department of Energy (DOE) to prevent and respond to wildfires, especially forest and grassland fires that threaten DOE facilities or property. The Department is one of the largest Federal landowners in the U.S.

"Fires at several Energy Department sites this year underscore the need to ensure that systems are in place for dealing as effectively as possible with any future fire emergencies," Secretary Richardson said. "The actions that I am ordering today, including the establishment of a fire advisory commission, are designed to help identify and correct any deficiencies in emergency preparedness at Department facilities across the country."

The three part plan:

- establishes an independent commission of nationally recognized fire safety professionals to assess the adequacy of the Department's fire safety programs;
- calls for a DOE team to conduct an immediate review of the Department's fire safety and emergency management capabilities, to be followed by a comprehensive evaluation of wildfire and facility fire safety; and
- directs DOE to formalize a cooperative agreement with the Departments of Agriculture and Interior in the areas of planning, preparation, prevention, and fire emergency response.

The Fire Safety and Prevention Commission is the central component of the Fire Action Plan. The 16-member panel is chaired by Steven A. Cozen of Cozen & O'Connor, a Philadelphia-based law firm. Cozen is a nationally recognized attorney specializing in crisis response to catastrophic fires, natural disasters, and other significant property and environmental accidents and losses. The commission has two co-chairs: Jack Snell, Director, Building and Fire Research Laboratory, National Institute of Standards and Technology, U.S. Department of Commerce; and Jessie Roberson, Member, Defense Nuclear Facilities Safety Board.

A complete list of commission members and biographical information is available at **http://www.energy.gov/HQPress/releases00/novpr/pr00292.htm**. ❖

Livermore Lab pioneers advanced cancer radiation treatment

Clearance has been granted by the U.S. Food and Drug Administration to NOMOS Corporation, Sewickley, Pa., to produce and market an advanced method for targeting tumors with radiation treatment developed by researchers at the Department of Energy's (DOE) Lawrence Livermore National Laboratory (LLNL). Dubbed PEREGRINE—after the patron saint of cancer patients—the technology helps doctors direct more radiation at tumors, with minimal damage to healthy tissue.

"This technology was developed through advances resulting from nuclear weapons research and with the multidisciplinary scientific expertise of a DOE national laboratory," said Secretary of Energy Bill Richardson, when he announced the achievement at NOMOS' headquarters in Pennsylvania.

PEREGRINE has been under development at LLNL since 1994, in collaboration with researchers at the University of California, San Francisco and other academic institutions. The technology is a computer-based system for calculating, in three dimensions, where radiation goes in the body and how much of it is striking tissue, bone or empty cavities. PEREGRINE will allow doctors to more accurately target tumors with radiation, permitting physicians to increase the dose needed to destroy tumors without increasing damage to surrounding healthy tissue.

The system relies on a mathematical technique called Monte Carlo to track radiation. It simulates the trillions of radiation particles that enter the body during treatment and accurately predicts radiation dose. PEREGRINE uses individual patient CT scans to tailor precise radiation dose calculations based on each patient's distinct anatomy and disease.

Lawrence Livermore selected NOMOS Corporation—the world's leading supplier of planning and delivery technology for intensity modulated radiation therapy—as a partner in the commercialization of PEREGRINE. The initial deployment of the technology will be incorporated into NOMOS' own inverse treatment planning system, called CORVUS. A stand-alone version of PEREGRINE subsequently will be developed to work with other treatment planning systems.

Additional information on PEREGRINE is available at **http://www.llnl.gov/peregrine**. ❖

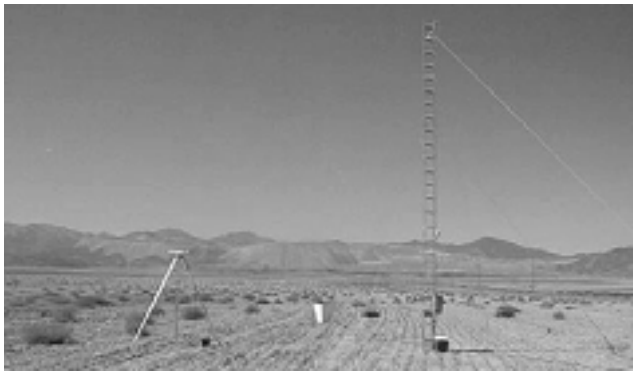
Utah study tracks vertical air movement

Hundreds of red balloons were released into the night air above Salt Lake City, Utah, in October to help gather data on vertical air movement. The month-long Vertical Transport and Mixing (VTMX) experiment is part of a four-year, $12 million effort to understand atmospheric processes that lead to pollutant-trapping temperature inversions. The project is sponsored by the Department of Energy's Office of Biological and Environmental Research in the Office of Science.

"Understanding how and where pollutants from energy production move in the atmosphere is important for making regional, national, and global air quality and energy policy," said Secretary of Energy Bill Richardson.

Sixty researchers from 14 research organizations around the country participated in the study. More than 200 three-foot diameter weather balloons, three laser systems, nine major instrument sites, dozens of meteorological ground stations, and a research plane were used to gather data. Roughly 460 square miles of the Salt Lake City valley were covered.

The scientists were particularly interested in gathering data on how the atmosphere mixes at nighttime and in the evening and early morning when the atmosphere is more stratified and there is less turbulence than in the daytime. The Salt Lake City valley provided a good setting to study how cold night air collects in mountain basins. Cold air pools below warmer air, creating a temperature inversion that can trap pollutants.



One of several instrumentation sites set up throughout the Salt Lake City valley for the VTMX meteorological study.

"This study will focus on certain poorly understood atmospheric processes that affect how air mixes and moves vertically," said Chris Doran of the Department's Pacific Northwest National Laboratory (PNNL) and lead scientist for the study. "Gaining a better understanding of how pollutant-trapping inversions form and break up has implications for improving air quality, weather forecasting, and even aircraft operations."

The study was led by PNNL. Other participants included the Department's Argonne, Brookhaven, and Los Alamos National Laboratories. Additional information on the VTMX experiment is available at **http://www.pnl.gov/vtmx**. ❖

Awards honor teaching, research excellence at Historically Black Colleges, Universities

National Historically Black Colleges and Universities (HBCU) Week was observed Sept. 17-23, 2000. As part of the celebration, the Department of Energy (DOE), the White House HBCU Initiative, the Department of Agriculture, and the National Aeronautics and Space Administration sponsored the Annual HBCU Conference and the first Annual Awards for Excellence in Research and Teaching.

The conference brought together HBCU Presidents and Chancellors, faculty, students, Federal agencies, corporations, and foundations to discuss issues of interest to the educational institutions. Under Secretary of Energy Ernest Moniz addressed the awards breakfast and presented the honors.

The Under Secretary emphasized the significant contributions of HBCUs to DOE research efforts and committed the Department to expanding its collaborations with the colleges and universities in the areas of science and technology. Under Secretary Moniz announced that the Department is working with HBCUs in Tennessee to involve them in an initiative to develop new facilities for the production of stable isotopes. He also told the audience that the Department is collaborating with HBCUs and minority-owned businesses to establish technology incubators and research institutes to promote academic partnerships and technology development. Several of the educational institutions expressed interest in participating in the new initiatives.

Under Secretary Moniz presents a teaching excellence award to Dr. Camille A. McKayle, University of the Virgin Islands.

Dr. Herbert W. Jones, Florida A&M University, and Dr. Paul Hudrlik, Howard University, received the National Research and National Teaching Award, respectively. These awards recognized outstanding HBCU faculty who have excelled in teaching and research and made significant contributions toward strengthening the capacity of HBCUs and developing the scientific, technological, and professional expertise essential to our nation. Other award recipients for teaching included Dr. Julliette B. Bell, Fayetteville State University; Dr. Camille A. McKayle, University of the Virgin Islands; and Dr. Ashok K. Kapi Satpathy, South Carolina State University. Dr. Ronald E. Mickens, Clark Atlanta University, received a research award. ❖

Cleanup finished on Oak Ridge 'gunite' tanks

The Department of Energy (DOE) recently completed the removal of radioactive sludge from a series of underground waste storage tanks at its Oak Ridge National Laboratory (ORNL) in Tennessee. The Gunite Tanks Remediation Project was the first of its kind completed in the United States, and the technologies used may serve as a model for other DOE sites. "This achievement is a significant milestone in the environmental cleanup of ORNL," said Secretary of Energy Bill Richardson.

Robotic and remotely operated equipment was used to clean the tanks and transfer the low-level liquid waste to new stainless steel storage tanks. A total of 30 technologies designed through the Department's technology development program were used in the project, leading to a cost avoidance of $120 million and accelerating the tank cleanup by more than 10 years.

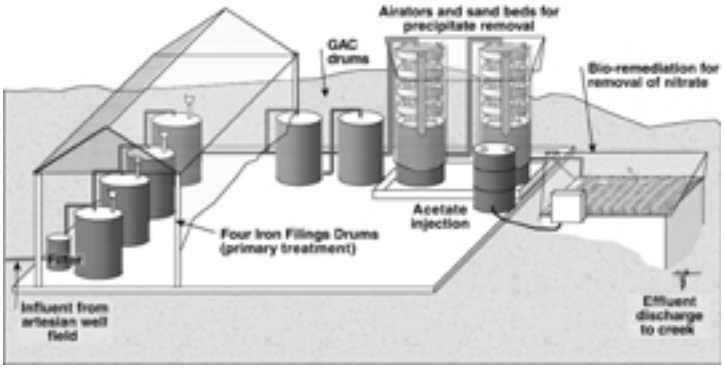
The six 170,000-gallon and two 42,500 underground storage tanks were built in 1943 as part of the World War II Manhattan Project. They were constructed of a concrete, sand and water mixture called "gunite," which was sprayed over a wire mesh and steel reinforcing frame.

The tanks were removed from service in the early 1970s but still contained liquid waste and sludge. Waste removal operations conducted in the early 1980s successfully removed most of the transuranic and mixed waste that had settled at the bottom of the tanks. But 87,000 gallons of sludge and 250,000 gallons of liquid containing 78,000 curies of radioactivity remained in the tanks.

The three-year cleanup project removed 99 percent of the waste and 95 percent of the contamination remaining in the tanks. The work was performed by UT-Battelle under a subcontract with Bechtel Jacobs Company at an approximate cost of $80 million. The empty tanks will be filled with grout. Eventually, the waste will be treated on site and shipped to the Department's Waste Isolation Pilot Plant in New Mexico for disposal. ❖

'Green' cleanup technology a success at Livermore Lab

The Department of Energy's Lawrence Livermore National Laboratory (LLNL) has determined its deployment of the first "green" cleanup technology at its Building 832 Canyon Operable Unit at Site 300 a success. Since July, the Iron Filings/GeoSiphon Treatment System has been remediating a ground water plume consisting primarily of volatile organic compounds (VOCs).



Schematic of the Iron Filings/GeoSiphon Treatment System

The treatment system is located on the floor of a steep walled canyon. The system is uncomplicated, requires little operations and maintenance, no electrical power, and takes advantage of the canyon's hydrogeological and topographic conditions to drive the system.

The targeted contamination zone lies 40 to 60 feet below the canyon floor and contains contaminant concentrations of 70 parts per billion (ppb) trichloroethylene, 20 ppb nitrate, and 6.5 ppb perchlorate near the farthest end of the plume. The source area, located 1,000 feet up-canyon, has concentrations of these contaminants two to three orders of magnitude higher.

Six wells were drilled to outline the contaminated ground water plume; three of these wells were completed as artesian extraction wells. The artesian wells have natural flow rates of 5 to 8 gallons per minute (gpm) and are located at an elevation approximately 30 feet higher topographically and approximately 400 feet up-canyon from the treatment system located at the mouth of the canyon. In the event of artesian pressure drop, the wells can be siphoned and the ground water will flow to the treatment system by gravity feed.

The treatment system consists of a series of aboveground iron filings-filled drums as the primary treatment for the contaminated ground water. The zero valent iron reduces the trichloroethylene to ethane, ethene, methane, and chloride ions and the nitrate to ammonium, and possibly nitrogen. Two granular activated carbon (GAC) drums are the secondary treatment and a sand bed filter is used for the removal of iron oxides. Additional treatment for the removal of nitrate is done through a bio-treatment unit which includes acetic injection as a carbon source. ❖

Good start for Combined Federal Campaign

The annual Combined Federal Campaign (CFC) drive at Department of Energy (DOE) Headquarters kicked off Oct. 4, 2000, at the Forrestal Building in Washington, D.C. Secretary of Energy Bill Richardson, a former college baseball player and major league draft pick, joined in the festivities by pitching some fast balls to highlight the campaign theme "Everyone Can Pitch In Something for the CFC."

Secretary Richardson appointed Dan Reicher, Assistant Secretary for Energy Efficiency and Renewable Energy (EE), as Co-Chairman of the drive. Doug Walgren, EE, is CFC Campaign Manager.

The goal of this year's campaign is $810,000. The campaign was scheduled to end at Thanksgiving. Federal employees again are asked to help those in need by pledging their support to meet the Headquarters goal.

Early reports from offices show that the Office of Inspector General was the first office to reach and exceed its dollar goal—almost doubling the set amount. The Office of Independent Oversight and Performance Assurance was the first office to meet and exceed its goal with 100 percent participation.

Contributions from Federal employees throughout the years have supported thousands of agencies and chapters nationwide, helping millions of people. The donations support many good causes, including disaster relief, emergency food and shelter, crisis intervention, medical research, day care, physical rehabilitation, and youth development.

DOE field offices will be coordinating and scheduling local campaigns. Department employees across the country are encouraged to participate in planned activities and support their local campaign efforts. ❖

Correction

On page 11, September 2000 *DOE This Month*, the article "Idaho lab receives environmental award" identifies the Environmental Management Research and Development Program Plan as an Idaho National Engineering and Environmental Laboratory (INEEL) plan. In fact, the plan from the Department of Energy's (DOE) Office of Environmental Management received the award. INEEL led the effort to produce the plan and was assisted by DOE's Los Alamos, Oak Ridge, and Pacific Northwest National Laboratories, and Savannah River Technology Center. ❖

Department updates American Indian Policy

On Oct. 31, 2000, Secretary of Energy Bill Richardson joined leaders and elders from several Pacific Northwest Indian tribes in Seattle, Wash., to outline the Department of Energy's (DOE) revised American Indian Policy. The goal of the policy is to improve government-to-government communication and build trust between the Department and Indian Country.

"This plan underscores our recognition that tribal nations are sovereign nations that require different approaches," said Secretary Richardson. "Our efforts help to show the way to new partnerships, new joint ventures, and new improved relationships in Indian Country."

The National Congress of American Indians, the Nation's largest and most representative body of Native Americans, helped with the policy revision. The policy provides for enhanced consultation with tribes before taking action that would affect tribal interests; assures compliance with laws and executive orders to better protect tribal resources; pledges the Department to take actions that uphold treaty rights of tribes; recognizes the need for direct funding from DOE for tribal initiatives; and convenes an annual summit with the Secretary of Energy to discuss tribal issues.

The American Indian Policy is available at **http://www.ci.doe.gov**, click on "Tribal Affairs."

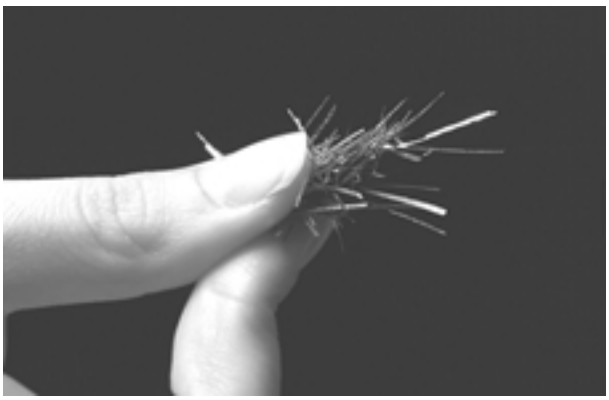
The updated policy especially is notable as Department Headquarters and field offices celebrate the annual observance of American Indian Heritage Month in November. A kick-off program was held Nov. 2 at the Forrestal Building in Washington, D.C., and broadcast via satellite to the Headquarters facility in Germantown, Md., and to field sites. The keynote speaker was Randy Teton, a Shoshone woman who was the model for the new Sacagawea gold dollar coin. Starting with the Albuquerque Operations Office, DOE Headquarters plans to highlight a different field office and its programs with Native Americans each year during American Indian Heritage Month. ❖

Mighty magnets have mini structures

Researchers at the Department of Energy's Idaho National Engineering and Environmental Laboratory (INEEL) have discovered a way to make magnets used in computer hard drives and motors more powerful and durable. Materials scientist Dan Branagan found that tweaking the standard formula for these high-end magnets produces stronger magnets that can withstand high manufacturing temperatures. Branagan worked in collaboration with researchers at the Department's Ames Laboratory in Iowa and Brookhaven National Laboratory in New York.

High heat usually transforms rare earth magnets into worthless hunks of metal. Branagan and his colleagues discovered that adding extra elements, such as titanium and carbon, to the standard rare earth mix of neodymium, iron, and boron improved temperature resistance and magnetic field strength. The extra elements improved the magnet by forming non-metallic compounds. An unusual and important step also was added—creating a metallic glass.

The researchers can use two different methods to make metallic glass. In one method, to coax the mix of elements into microscopic form, the elements first are melted together. A pressurized stream shoots the molten metal mix onto a copper wheel spinning at 100 miles per hour, a process known as melt-spinning. Once it hits the wheel, the metal cools almost instantly into a shiny metallic glass ribbon, as fine and flexible as Christmas tree tinsel.



One type of metallic glass resembles Christmas tree tinsel.

An ash-like powder of metallic glass also can be formed through gas-atomization: skipping the copper wheel and injecting the molten metal into a pressurized stream of gas. Similar to processes in a volcanic eruption, the gas stream instantly cools the melt into thousands of tiny glass particles.

Heating the glass in an oven at "low" temperature (600 degrees Celsius) converts the glass blobs into metallic and non-metallic crystals. This transformation is the researchers' trick. Normally, heating metallic glass causes the blobs to grow together into large crystals. But non-metallic crystals of titanium carbide plug the spaces between the larger crystals of neodymium-iron-boride, preventing them from growing bigger. The crystals are less than one hundredth of a millionth of a meter across—500 times smaller than a red blood cell.

Until now, manufacturing rare earth magnets was extremely dependent on temperature. Since the extra elements in the alloy control crystal size, there is more room for error. "That means lower costs and less stringent controls," says Branagan. ❖

Agreement signed to create 'smart' leg

The Department of Energy's (DOE) Sandia National Laboratories has entered into a cooperative research and development agreement with the Russian nuclear weapons laboratory Chelyabinsk 70 and the Seattle Orthopedic Group (SOGI) to create a prosthetic leg controlled by microchip. Sandia will develop the sensors and chips; Chelyabinsk 70 will perform materials work and testing; and SOGI will set technical requirements. About 120 former Russian nuclear weapons scientists will participate in the project, funded by DOE's Initiatives for Proliferation Prevention.

The leg is intended to simulate a human gait whether on uphill, downhill, or irregular terrain. A microprocessor-controlled module implanted in the leg will control hydraulic joints and piezoelectric motors that power the ankle, knee, and socket.

At left, Diane Hurtado of Sandia's Smart Integrated Lower Limb project team inspects older prosthetic devices lent by SOGI to the project to help researchers generate ideas for the next generation of prosthetics. ❖

Idaho Lab technology solves onsite chemical mystery

Several half-buried, rusty, unmarked gas cylinders recently were found in the desert at the Department of Energy's (DOE) Idaho National Engineering and Environmental Laboratory (INEEL). Metal tags near the unofficial "landfill" read hydrogen fluoride, but there was no known process at INEEL that used the chemical in a gas form.

The mystery was left to Dennis Raunig, Environmental Restoration Project Manager, to solve safely. Raunig called on INEEL nuclear physicist and 1992 R&D 100 award winner Gus Caffrey and the Portable Isotopic Neutron Spectroscopy (PINS) system he developed. The PINS instrument has a built-in "library" of gamma-ray spectra that can identify chemicals in weapons within 30 seconds after data collection.

At left, the portable PINS system was deployed to the field where technicians safely examined the gas cylinders. It took 200 seconds to identify the contents as hydrogen fluoride. This incident marked the first use of PINS for an environmental application at a DOE facility. ❖

'Siberian Snakes' put a new spin on physics

Chris Cleary, a tool and instrument maker at the Department of Energy's Brookhaven National Laboratory is measuring a snake magnet coil form that will be used to construct a "Siberian Snake," a string of magnets used in physics research. The "snake," invented in Novosibirsk, Russia, will be used to explore the internal structure of protons in Brookhaven's Relativistic Heavy Ion Collider (RHIC).

Protons are elementary particles that are a component of all atoms. Each proton has a property called spin—comparable to a spinning top. Normally, the spin direction is random. To figure out what factors contribute to spin, the scientists will use the Siberian Snake and other equipment to get all the protons spinning in the same direction.

The ultimate goal is to collide spin-polarized proton beams to learn how the spin of protons is related to the spin of their component parts—quarks and gluons. ❖

Paducah completes 'Drum Mountain' cleanup

Cleanup of the once 35-foot-tall mound of crushed metal drums at the Paducah Gaseous Diffusion Plant in Kentucky has been completed. A 40-person crew filled approximately 160 intermodal containers with more than 2,500 tons of crushed drums which in the past contained depleted uranium tetrafluoride. The final remnants of "Drum Mountain" were packaged in the containers for shipment to a disposal site.

"I congratulate Bechtel Jacobs Company and all its subcontractors, the United States Enrichment Corporation, and especially the men and women who have worked long and hard hours under very difficult conditions to get this important job done," said W. Don Seaborg, Department of Energy site manager in Paducah.

Removing Drum Mountain was a priority because it was a potential source of surface water contamination and there is a waste burial ground beneath the site. The project was placed on a fast track, moving from public comment on the plan to completion in about a year. ❖

Creedon gets a firsthand look at Nevada programs

Madelyn Creedon, Deputy Administrator for Defense Programs, National Nuclear Security Administration, recently made her first official visit to the Department of Energy's Nevada Operations Office and Nevada Test Site. "Madelyn got a firsthand look at what we do here in Nevada and better understands the contribution our people make to stockpile stewardship," said Nevada Operations Manager Kathy Carlson. Creedon received briefings on several Nevada programs, including the Joint Actinide Shock Physics Experimental Research (JASPER) Facility project.

At right, JASPER project leader Gene Christensen of the Department's Lawrence Livermore National Laboratory (LLNL) gives Creedon an "inside" look at the JASPER target chamber. The JASPER project is a two-stage gas gun for the study of special nuclear materials at extreme conditions by means of shock with high-velocity projectiles. JASPER experiments will support the Stockpile Stewardship Program and complement the subcritical experiments being conducted at the test site. ❖

Employees complete executive leadership program

Seven Department of Energy Headquarters and field employees recently graduated from the 1999/2000 Women's Executive Leadership (WEL) Program. The employees were members of a class of 278 graduates from agencies across the Federal Government.

The 12-month WEL program, administered by the Graduate School, USDA, provides leadership training and developmental opportunities for high-potential men and women with little or no supervisory experience at the GS-11/12 level. The program consists of five weeks of managerial competency-based training, three executive interviews, one 30-day and one 60-day developmental assignment, management readings, a shadowing assignment, and a special group project. Participants complete these requirements while maintaining the responsibilities of their current positions.

Left to right are graduates Anne Marie Bird, Ohio Field Office; Earlette Robinson, Chicago Operations Office; Donna Jaskolka, National Energy Technology Laboratory; Enrique Ragas, Albuquerque Operations Office; Jacqueline A. Brown, Headquarters; Nancy Crosby, Richland Operations Office; and Mary Ann Smith, Headquarters. ❖

Technology sharing speeds Hanford cleanup

In preparation for stabilizing a large inventory of plutonium material, the Department of Energy's (DOE) Hanford Site reviewed its long-range Integrated Project Management Plan. The Nuclear Material Stabilization Project team reevaluated stabilization and deactivation technologies, including several developed by and successfully used at other DOE plutonium facilities. The result is that four processes now are simultaneously in operation at Hanford's Plutonium Finishing Plant to stabilize and package all forms of the site's 18 metric tons of bulk plutonium-bearing materials.

Thermal stabilization has been in operation since January 1999. The process, which will be used for 75 percent of the plant's plutonium forms, uses sustained high heat to drive out moisture and volatile chemicals from the plutonium materials, converting them into a stable powder.

Hanford is recovering plutonium from nitric acid solutions via magnesium hydroxide precipitation. The process, developed by the Department's Los Alamos and Pacific Northwest National Laboratories and the Rocky Flats Site, has higher throughput and is safer to operate than other processes. Nearly 4,300 liters of plutonium-bearing solutions will be stabilized.

The plant is packaging residue materials that do not require further stabilization using the "pipe-and-go" technique developed at the Department's Rocky Flats Environmental Technology Site. The first material to be packaged in this manner is ash from the Rocky Flats Site. The ash is placed into cans, 7 inches tall and 5 1/2 inches in diameter, and then placed into a pipe overpack in a standard Department of Transportation 55-gallon drum in preparation for shipment to DOE's Waste Isolation Pilot Plant in New Mexico.

At left, Plutonium Finishing Plant operators monitor the bagless transfer, automated plutonium packaging system. At right, a radiation control technician is working.

The first of two Bagless Transfer Systems began operations in September 2000. The automated packaging system was developed by and first deployed at the Department's Savannah River Site and has been modified at Hanford to incorporate lessons learned (*DOE This Month*, July 2000). The first system will be used for packaging the inner of two stainless steel containers for long-term storage. The second system, expected to start up next year, will include thermal stabilization and packaging capabilities for both the inner and outer containers.

Hanford expects to complete stabilization at the Plutonium Finishing Plant by mid-2004, and the plutonium ultimately will be moved off the Hanford Site. ❖

COMING Events

December

11-13 Americas Nuclear Energy Symposium, Miami, Fla. Sponsored by the Department of Energy's Office of Nuclear Energy, Science and Technology and the Florida International University. The symposium provides a forum for a hemispheric discussion and exchange of ideas on the status and future of nuclear technology in the Americas. Discussions will include national and regional presentations on nuclear energy opportunities, isotopes for medicine and science, waste management, power generation, public information, nuclear science and technology, and finance. Additional information is available from Florida International University, 305-348-1818, e-mail nuclear@eng.fiu.edu, or on the Internet at **http://www.nes2000.org/**.

February 2001

19-22 4th Industrial Energy Efficiency Symposium and Exposition, Washington, D.C. The biennial conference is cosponsored by the Department of Energy's Office of Industrial Technologies in the Office of Energy Efficiency and Renewable Energy in partnership with several leading U.S. manufacturing and materials companies. Nationally recognized experts will share their perspectives on the competitive challenges and opportunities facing U.S. manufacturers and energy-intensive basic industries. For registration and more information, call toll free 877-OIT-SYMP (877-648-7967) or visit **http://www.oitexpo4.com**. ❖

NEW ON THE Internet

New EIA website

Energy information is now easier to find with the redesigned website of the Department of Energy's Energy Information Administration (EIA). The new site, **http://www.eia.doe.gov**, has energy "channels" representing themes that customers most frequently follow in searching for energy information, such as by fuel, geography, price, or sector. The channels intersect in content and offer several paths to information. For example, electricity prices in Maryland can be found by following the price, geography, or fuels channel.

The new design provides easier access to EIA publications, hot topics, and popular reports. Links also are provided to subject experts and the National Energy Information Center (NEIC). Any questions or comments, contact the NEIC at 202-586-8800 or infoctr@eia.doe.gov.

Nuclear safety site a hit

Since its creation in 1996, the U.S. International Nuclear Safety Center (INSC) website, **http://www.insc.anl.gov**, has been accessed more than 8,000,000 times. The site, operated by the Department of Energy's Argonne National Laboratory, offers a comprehensive resource for safety analysis of nuclear power facilities around the world and includes a complementary database and web page provided by the Russian International Nuclear Safety Center. The INSC operates under the guidance of the Director of International Nuclear Safety and Cooperation (NN-30).

Currently, the site receives about 20,000 "hits" a month; online visitors come from 80 countries and spend an average of 11 to 12 minutes browsing the pages. Users include high school students interested in maps of nuclear facilities, individuals seeking unbiased information on nuclear safety, and scientists reading detailed assessments of material behavior during nuclear accidents. Much of the information is available publicly, but preliminary or proprietary project information is access controlled. ❖

New center to support bioenergy industry

A National Bioenergy Center is being established by the Department of Energy (DOE) to give the emerging bioenergy industry a focal point for technology development and access to world-class research and state-of-the-art laboratory facilities. The National Bioenergy Center is the next step in the Department's efforts to implement President Clinton's Federal initiative to triple the nation's use of bioenergy and bioproducts by 2010.

"Focusing our efforts to help industry through the National Bioenergy Center will create new economic opportunities for farmers, enhance U.S. energy security, and help manage the impact of energy on the environment," said Secretary of Energy Bill Richardson. "Together, we will work to accelerate development of a new industry that can provide a significant source of home-grown energy."

Biomass—typically defined as all the earth's plant matter and byproducts—is considered to be one of the most technologically promising sources of renewable energy in the United States. Biomass can be converted into liquid fuels to replace or enhance gasoline, into electricity, or into chemical byproducts currently made from petroleum. The Department estimates there is enough biomass in the U.S. to supply a significant portion of our nation's energy needs. Biomass could generate as much as $20 billion a year in new income for American farmers and rural communities, while reducing annual greenhouse gas emissions by up to 100 million tons a year.

The National Bioenergy Center will partner with U.S. industry to make bioenergy competitive globally, to provide coordination and best use of national laboratory and university research capabilities, and to facilitate strategic partnerships. The center also will be the focal point of bioenergy analysis, information, education, and outreach.

The Department's National Renewable Energy Laboratory (NREL) in Golden, Colo., and Oak Ridge National Laboratory (ORNL) in Tennessee will lead the National Bioenergy Center. The virtual center, supported by existing funding, will be based at NREL.

DOE-funded biomass renewable energy research programs will be linked with the resources and capabilities of the U.S. Departments of Agriculture (USDA) and Interior, the Environmental Protection Agency, the National Science Foundation, and several other Federal agencies. NREL's $33 million biomass research program focuses on conversion of biomass feedstocks into electric power, transportation fuels, and chemical products. ORNL's $6 million research program focuses on crop research with industry and the USDA.

Additional information on the Department's efforts in support of the bioenergy initiative is available at **http://www.eren.doe.gov/bioenergy_initiative/page1.html.** ❖

Ohio Field Office gets a lesson in teamwork

One of the values that staff at the Department of Energy's Ohio Field Office hoped to instill in students working at the facility this past summer was teamwork. Instead, summer student Betsy Volk taught the Ohio employees the real meaning of teamwork

The life of Betsy, a disabled student in her senior year at Wright State University, Ohio, is a study in teamwork. To go to work or school, Betsy relies on part of her team to get her up and help her dress each morning. Then a transportation van takes her to work. During the day, Betsy's dog Trooper assists her with retrieving objects, opening doors, and other tasks.

Betsy helped the Ohio employees learn a valuable lesson in teamwork while using the special chairs for evacuating disabled workers during safety drills. For people who spend most of their time in front of a computer, it was an eye-opening experience. The staff learned that you have to plan ahead and divide responsibility and that working together is rewarding.

In conjunction with the Office of Personnel Management's plan to increase representation of adults with disabilities, the Ohio Field Office worked with Wright State University's Office of Disability Services to interview students and make recommendations for the summer student program. Eleven students, including two with disabilities, were hired from colleges and universities in Ohio, Tennessee, Illinois, Indiana, Kentucky, and Washington, D.C. ❖

Student Betsy Volk helps Ohio Field Office employees learn the correct way to use the EVAC Chair during safety drills.

NEW Publications

Powering the New Economy – Energy Accomplishments, Investments, Challenges (DOE/PO-0062), September 2000, updates and expands on the 1998 Comprehensive National Energy Strategy. The report highlights the Administration's energy accomplishments and investments and examines the energy challenges facing the nation as it enters the 21st century. Available at **http://www.policy.energy.gov/docs/newecon.pdf.**

❖

Department of Energy Strategic Plan, October 2000 (DOE/CR-0070) sets forth the mission and vision of the Department and establishes goals, objectives, performance measures, and strategies for the next several years, beginning with fiscal year 2001, for each business line—energy resources, national nuclear security, environmental quality, science—and corporate management. Available electronically at **http://www.cfo.doe.gov/stratmgt/plan/doesplan.htm**. Printed copies available from the Office of Strategic Planning and Program Evaluation, CR-70, 202-586-9852.

❖

Annual Report of Waste Generation and Pollution Prevention Progress 1999 (DOE/EM-0545) presents and analyzes waste generation and pollution prevention activities at 44 Department of Energy (DOE) sites nationwide from 1993 through 1999. DOE's progress toward achievement of the calendar year 1999 Complex-Wide Waste Reduction Goals also is reported. Available electronically at **http://www.em.doe.gov/wastemin**, select "Pollution Prevention Team" under the Annual and Quarterly Reports section, or at **http://twilight.saic.com/wastemin/**. Printed copies available from the Center for Environmental Management Information, 800-736-3282. Any questions, contact Mike Sweitzer, Manager, Albuquerque National Pollution Prevention Program, 505-845-4347.

❖

Office of Inspector General reports: ***The Decontamination and Decommissioning Contract at the East Tennessee Technology Park*** (DOE/IG-0481); ***Summary Report on Allegations Concerning the Department of Energy's Site Safeguards and Security Planning Process*** (DOE/IG-0482); ***Implementation of Presidential Decision Directive 63, Critical Infrastructure Protection*** (DOE/IG-0483); ***Management of the Nuclear Weapons Production Infrastructure*** (DOE/IG-0484); ***Corporate and Stand-Alone Information Systems Development*** (DOE/IG-0485). Available from the U.S. Department of Energy, IG Reports Request Line, 202-586-2744; or at **http://www.ig.doe.gov/**. ❖

Research DIGEST

The Department of Energy's **Sandia National Laboratories** and Goodyear Chemical have signed a Cooperative Research and Development Agreement to jointly explore new and more energy efficient processes to help reduce energy costs in the petrochemical industry. Researchers will share expertise to analyze chemical process technologies that may reduce energy consumption, waste generation, and environmental emissions. Goodyear will provide engineering and economic modeling studies based on the company's newest plant operations. Sandia will use advanced computer-aided design and engineering to test fabricated material recovery devices and quantify results. The research will target processes at Goodyear's Beaumont, Texas, solution polymer plant, which recently began full-scale operations. (Rod Geer, 505-844-6601)

A $613,687 grant has been awarded by the National Multiple Sclerosis Society to scientists at the Department of Energy's **Brookhaven National Laboratory**. The grant will support a three-year study using Brookhaven's magnetic resonance imaging (MRI) scanner to look for early signs of multiple sclerosis (MS)—a chronic, often disabling disease characterized by scarlike lesions in the brain and spinal cord. More than twice as powerful as a typical hospital scanner, the Brookhaven MRI machine will allow scientists to search for subtle changes in blood vessels that precede MS disease activity. Scientists believe an early step in lesion formation is an influx of water into the brain via leaky cerebral blood vessels. The study will measure in detail the water content across the brain in MS patients and control subjects. (Karen McNulty, 631-344-8350)

The Wire Development Group—a collaboration of research teams from the Department of Energy's **Argonne**, **Los Alamos**, and **Oak Ridge National Laboratories**, the University of Wisconsin, and American Superconductor—has received the 2000 Collaboration Success Award from the Council for Chemical Research. The award recognizes the group's efforts in advancing high-temperature superconducting wire technology. High-temperature superconducting wires promise tremendous economic and energy-saving benefits, due to their high current carrying capacity and lack of electrical resistance when cooled to the temperature of liquid nitrogen. The group was established in 1991 to develop the materials science base needed to commercialize a first generation of high-temperature superconducting wires. (Steve Sandoval, 505-665-9206) ❖

Research promises future oil-heat savings

Researchers in the Combustion Equipment Technology Program at the Department of Energy's (DOE) Brookhaven National Laboratory (BNL) are working to improve fuel-oil efficiency to help homeowners and small businesses keep heating costs down. The Brookhaven program already has saved an estimated $6 billion for the 11 million Americans who heat their homes with oil heat. Technologies currently under development may help oil-heat customers save up to an additional $19.5 billion by the year 2010.

BNL's work on heating equipment is sponsored jointly by DOE and the New York State Energy Research and Development Authority. Ongoing research programs include:

- The **fan-atomized oil burner**, which fires fuel at low input rates to match the smaller heating loads of well-insulated homes. The oil burner offers improved fuel- and air-mixing for better performance and reduces nitrogen-oxide emissions by as much as 30 percent. Heatwise, Inc., of Ridge, N.Y., has begun to commercialize the new technology.
- The **electronic flame quality indicator**, which monitors flame brightness in residential oil burners. The device is designed to alert the homeowner when service is required weeks before the oil burner's primary control would normally shut down the system due to severe flame-quality problems. Honeywell Corporation, Minneapolis, Minn., and Insight Technologies, Bohemia, N.Y., are performing a 100-unit field study of an improved version of the indicator.
- Laboratory and field studies of **low-sulfur fuels**. BNL research has shown that sulfur is an important contributing factor in heat-exchanger fouling and efficiency degradation. Current research is aimed at determining the benefits of long-term use of reduced-sulfur heating oil. ❖

Brookhaven National Laboratory researcher Thomas Butcher inspects the flame pattern in the fan-atomized oil burner.

People IN ENERGY

Alice C. Williams is the new Director of the Department of Energy's West Valley Demonstration Project in New York. Williams comes to West Valley from the Department's Idaho Operations Office where she served as Deputy Assistant Manager for the Office of Technical Support and Deputy Assistant Manager for the Office of Program Execution. Prior to joining the Department in 1987, Williams worked for EG&G Idaho.

Richard Toohey of Oak Ridge Associated Universities (ORAU) has been named a fellow in the National Health Physics Society, an honor given to senior society members who have made exceptional administrative, educational, and/or scientific contributions to the health physics profession. Toohey directs the Radiological Internal Dose Information Center and is the senior health physicist for the ORAU Radiation Emergency Assistance Center/Training Site.

Scientist **Art Ramirez** is joining the Department of Energy's Los Alamos National Laboratory later this year as the new Group Leader of Condensed Matter and Thermal Physics within the Materials Science and Technology Division. Ramirez will succeed **Joe Thompson** who is leaving the position to return to research. A leading researcher in solid state and materials physics, Ramirez currently is a distinguished technical staff member at Lucent Technologies' Bell Laboratories in New Jersey.

James Lake has been named Associate Laboratory Director of Nuclear and Energy Systems Engineering at the Department of Energy's Idaho National Engineering and Environmental Laboratory (INEEL). Lake, the current President of the American Nuclear Society, replaces **Jerry Ethridge**, who has been named General Manager of Site Services and Infrastructure at the laboratory. Previously, Lake was Director of Advanced Nuclear Energy at INEEL.

Timothy Dirks, Director, Office of Human Resources Management at Department of Energy Headquarters, received the Executive Director's Award presented by the Graduate School, USDA as part of its Annual Faculty Excellence Award Program. Dirks was recognized for his work as Chair of the Human Resources Advisory Board and in developing a human resources certification program and competency-based training to support the program.

Margaret Lacson has been appointed Deputy Director of the Department of Energy's (DOE) Office of Consumer Information. Lacson's responsibilities include managing the Department's consumer outreach efforts related to producing video news releases and promoting the DOE Home Page, energy.gov. Previously, Lacson was Executive Producer and Anchor for Filipino-American Report and the news producer for Newsnight at KMTP-TV32 in San Francisco, Calif.

Linda Chang has been appointed Chair of the Medical Department at the Department of Energy's Brookhaven National Laboratory (BNL), succeeding **Nora Volkow**, who is now Associate Laboratory Director for Life Sciences at BNL. Previously, Chang was Associate Professor of Neurology at the University of California Los Angeles (UCLA) Medical School and a researcher at Harbor-UCLA Medical Center.

Three new division directors were named recently at the Oak Ridge Y-12 Plant, which is under the jurisdiction of the Department of Energy's National Nuclear Security Administration. **Terry Olberding** is Director, Technical Division, with responsibilities for integrated safety management, systems engineering, and environment, safety and health. **Daniel Hoag**, Director, Programs Division, is responsible for stockpile stewardship and stockpile management. **Kenneth Ivey**, Operations Management Division, will oversee plant operations and support programs.

Stephen H. McCracken is the new Director of the Department of Energy's (DOE) Fernald Environmental Management Project in Ohio. McCracken served for 13 years with the Department's Weldon Spring Site Remedial Action Project, most recently as Project Manager. He succeeds **Jack Craig**, who recently was named Deputy Manager, DOE Ohio Field Office.

Herbert Richardson has been appointed Principal Deputy Inspector General for the Department of Energy. He will oversee the Office of Inspector General's nationwide efforts to prevent and detect fraud, waste, and abuse in Department programs and operations, including those of the National Nuclear Security Administration. Richardson previously served as Assistant Inspector General for Investigations and retains those duties in his new post.

Scientist **Ali Erdemir,** Energy Technology Division at the Department of Energy's Argonne National Laboratory, has been selected for membership in the Academy of Distinguished Engineering Alumni at the Georgia Institute of Technology.

Alexei Abrikosov, Distinguished Scientist at the Department of Energy's Argonne National Laboratory, has been elected to the National Academy of Sciences, one of the highest honors accorded a U.S. scientist or engineer. Abrikosov's research centers on condensed-matter theory and concentrates on superconductivity.

Scientist **Larry Winter** of the Mathematical Modeling and Analysis Group at the Department of Energy's Los Alamos National Laboratory (LANL), has been appointed science adviser to New Mexico Governor Gary Johnson. Winter, who succeeds fellow LANL scientist **Paul T. Cunningham**, will provide advice and assistance to the governor and the state government on general science and technology matters. ❖

Milestones

YEARS OF SERVICE

November 2000

Headquarters

EIA - John H. Weiner (35 years), William I. Weinig (30), Stanley R. Freedman (25), Barbara Mariner-Volpe (25). **Energy Efficiency** - Denis J. Feck (35), Frances J. Evans (25). **Envir. Management** - Robert L. Boettner (30), Martha E. Chitwood (25). **FERC** - Delbert R. Terrill, Jr. (35), Hazel M.S. Anderson (30), Thomas N. Russo (30), Gail M. Smith (30), Harry T. Hall (25), Helen S. Speight (25).

Fossil Energy - Lawrence D. Carter (30), Patrick J. Fleming (30), Nancy T. Marland (25). **General Counsel** - Betty L. Brown (30). **Inspector General** - Vervely A. Jordan (25), Sally J. Leiser (25). **Intelligence** - Barbara L. Kelley (30). **International Affairs** - George L. Person, Jr. (25). **Management & Administration** - Brian A. Dean (35), Richard S. Baritz (30), James L. Devilbiss (30), Joan B. Ogbazghi (25). **NNSA** - Ora A. Cooke (30), Virginia Barazotto (25), John H. Hnatio (25), Stephen Murphy (25).

Nuclear Energy - William M. Hartman (35). **Policy** - Mildred T. Reed (30). **Radioactive Waste** - Bruce D. Hutchinson (35), James W. Osborne (25), John T. Sullivan (25). **Science** - William F. Dove (35), Patrick A. Crowley (30), Anne M. Zerega (30). **Security & Emergency Operations** - Robert O. Green (35), Finn K. Neilsen (35), Frances M. Woodard (35), Richard J. Levernier (25).

Field

Albuquerque/NNSA - Robert R. Adair (30), Francis B. Chiaramonte (30), Josephine A. Short (30), Faye A. Wegner (30), Dianne L. Layne (25), Farmer L. Roberts, Jr. (25). **Chicago** - Patricia A. Campbell (30). **NETL** - Arthur G. Blackwell (30), Richard C. Price (30), Alexis W. Puher, Sr. (30), Dale A. Siciliano (25). **Nevada/NNSA** - Lawrence Draper (25), George Oksza-Chocimowski (25).

Oak Ridge - Don R. Sloan (30), Charles D. Crowe (25), Paul S. Foster (25), Jerry L. Howell (25). **Oakland** - Arthur L. Lindsey (25), Richard D. Vergas (25). **Oakland/NNSA** - Warren Jue (30), Anthony M. Torres (25). **Ohio** - Beverly A. Cole (25). **Richland** - James M. Peterson (25). **Savannah River** - Patricia M. Thompson (25). **Strategic Petroleum Reserve** - Patricia A. Broschofsky (30).

Bonneville Power - Richard P. Castoldi (35), Garry W. Peterson (35), David M. Stefonek (35), Mathew G. Alling (30), Randall W. Chong (30), Larry A. Davidson (30), Stephen K. Davis (30), Daniel A. Hodson (30), Paul G. Priddy (30), Thomas C. Thompson (30), Kenneth D. Allen (25), Tsu-Huei L. Ger (25), Sherry I. Lind (25), Elizabeth T. Pratt (25), Sandra M. Rapozo (25), Helenann W. Volpe (25).

Southwestern Power - Norman G. Culver (30). **Western Area Power** - Norman J. Miller (40), Henry J. Kientz (30), Debora K. Kludt (30), Randy E. McAdams (30), William H. Karsell (25), Michael H. Smith, Jr. (25), James E. Tomsic (25), Barry A. Vandermolen (25).

RETIREMENTS

September 2000

Headquarters

EIA - Michael J. Feld (29 years). **Envir. Management** - Patricia G. Clark (24), Cynthia K. Hilland (34), Joseph H. Letourneau (22), Sharon A. Palmer (26), John D. Psaras (9), Mark T. Stahr (25), Marilyn L. White (35). **NNSA** - Charles E. Lasley (25), Daniel R. Rhoades (31). **Radioactive Waste** - Charles E. Teclaw (18).

FERC - Theresa Y. Anderson (39), William C. Anderson (28), Philip G. Burgiel (39), Raymond R. Cassidy (31), Lavenia U. Charles (24), Jerry T. Chastain (30), Kuang-Hwei Chuang (20), John H. Conway (22), Vivian S. Cornish (20), L. Jorn Dakin (26), Michel G. Didos (22), George Dornbusch (24), Cecelia B. Ford (28), Earlia M. Ganey (37), James E. Ginter, Jr. (28), Lannie Guster, Jr. (31), Donald K. Hart (25), Howard C. Heard, Jr. (35), Mary Hines (30), A. Stewart Holmes (31), David E. Hunter (29), Max L. Kane (58),

James V. Keller (32), Peter S. Kozlek (34), Donna L. La May (22), Joanne Leveque (32), Nicholas P. Lewnes (26), Rosie M. Louallen (28), Stephen L. Margulies (22), Christie L. McGue (24), Paul W. McKee (27), Wayne W. Miller (31), Linda L. Patton (26), Jacquelyn K. Roach (32), Barry M. Smoler (25), Rose V. Spann (34), Roberta J. Starz (24), Nicholas G. Theofilos (29), Theodore P. Verges (28), Terry West (31), Blanche V. Williams (34), Robert A. Wolfe (23), David E. Zehner (24), Dorothy J. Zimmerman (25).

Field

Albuquerque/NNSA - Linda P. Katz (33), Christine A. McWhorter (25). **Chicago** - Lynn R. Lohman (25). **Golden** - Robert L. Martin (20). **Idaho** - Paul P. Martin II (25), Walter L. Williams (27). **Ohio** - Lee E. Stevens (22). **Oakland** - Chester Chang (25). **Savannah River** - Dyanna M. Nelsen (34). **Western Area Power** - Janet S. Campbell (31), Palma J. Mitzel (21), Marc E. Pinkus (25), John A. Randall (27), Herbert R. Hallgren (21), Adam A. Nash (29), Cynthia K. Miller (27), John N. Montagna (25).

October 2000

Headquarters

EIA - Joan E. Heinkel (30). **Science** - Sherman P. Fivozinsky (34).

Field

Southwestern Power - Joe Z. Durham (34). **Western Area Power** - Kenneth L. Green (36). ❖

November 2000

AROUND DOE

Lessons-learned program shared with industry

The Department of Energy's (DOE) Society for Effective Lessons Learned Sharing (SELLS) is a volunteer group of Federal and contractor employees from Headquarters and field offices with a common goal of exchanging information on work experiences across the DOE complex. Now, the Society is setting the standard for similar industry programs.

Recently, several businesses received tools or information to help them develop their own lessons-learned programs. The DOE lessons-learned database software developed by SELLS was provided to the J.M. Huber Corporation for its growing "after-action review" process. Motorola received the software application last year. Both corporations found the program through the Department's lessons learned web site.

Briefings also have been provided on DOE's lessons-learned program. SELLS co-chair John Bickford, Fluor Hanford, briefed General Motors' staff to help with the consolidation and standardization of 13 separate lessons-learned programs. Co-chair Bruce Breslau, Office of Environment, Safety and Health represented the Department at the World Wide Joint Lessons Learned Conference.

Information on the DOE Lessons Learned Program and SELLS is found at **http://tis.eh.doe.gov/LL**.

WIPP facility receives 100th waste shipment

The 100th shipment of defense-generated transuranic radioactive waste arrived safely last month at the Department of Energy's (DOE) Waste Isolation Pilot Plant (WIPP) in Carlsbad, N.M. "This is a major milestone for WIPP as we work toward cleanup of DOE sites across the country," said Inés Triay, Manager, Carlsbad Field Office.

Since disposal of waste from Department sites began in March 1999, the facility has received 21 shipments from the Idaho National Engineering and Environmental Laboratory, 59 from Rocky Flats, 17 from Los Alamos National Laboratory in New Mexico, and three from the Hanford Site in Washington. During the expected 35-year operating life of WIPP, the Department will transport some 19,300 loads of transuranic waste from 23 locations nationwide.

Report addresses safety of former K-25 site

The final in a series of reports on the Department of Energy's three gaseous diffusion plants has been issued. The report is based on a six-month investigation of past and current practices at the former K-25 site in Oak Ridge, Tenn., that may have affected the environment and the safety and health of workers and the public. The site is now the East Tennessee Technology Park.

The report concludes there are no immediate risks to worker or public health, either on or off site, from current operations in Department-controlled areas of the site but found deficiencies in several areas requiring management attention. These include mitigating offsite migration of radiological and chemical contamination and improving adherence to safety procedures. The review of historical operations indicates that, although efforts were clearly made to protect workers and the environment, production priorities took precedence over environmental and worker safety and health considerations.

The Department's Oak Ridge Operations Office and Office of Environmental Management must complete a corrective action plan addressing the report's findings on current operations. The report is available at **http://tis.eh.doe.gov/oversight/reviews/ettp**. ❖

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Department of Energy (PA-40)
Washington, DC 20585

Official Business